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09/390,501 09/03/99 BATZ R SEM4492P1072

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EXAMINER

SMITH HICKS, E

ART UNIT

PAPER NUMBER

1741

DATE MAILED:

07/19/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/390,501

Applicant(s)

BATZ Jr., et al.

Examiner

Erica Smith-Hicks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: --page 1, line 2—insert “now US Patent 6,001,234 issued December 14, 1999” after “filed September 30, 1997”.

Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **CONTACT ASSEMBLY FOR SUPPLYING POWER TO SEMICONDUCTOR WORKPIECES DURING ELECTROCHEMICAL PROCESSING.**

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(f) he did not himself invent the subject matter sought to be patented.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by WOODRUFF et al. US 6,080,291.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

6. Claims 3-7 and 9 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. Evidence that Applicants did not invent the claimed subject matter is as indicated in the previous rejection.

Claim 3 of the instant application is taught by WOODRUFF et al. US 6,080,291 at

col. 2, lines 19-35 were a contact assembly for supplying electrical power to a microelectronic workpiece during electrochemical processing of the workpiece comprising an electrical contact for providing an electrically conductive connection between the contact assembly and the microelectronic workpiece and a yieldable sealing member proximate the electrical contact for bearing against the surface of the microelectronic workpiece to form a seal thereagainst which inhibits entry of processing fluid through a barrier which is defined between said yieldable sealing member and the surface of the workpiece to be treated are disclosed.

Claim 4 is taught by WOODRUFF et al. at col. 2, lines 43-47 wherein the yieldable sealing member includes a rim portion for engaging the surface of the microelectronic workpiece forming a seal contact therebetween.

Claim 5 is disclosed by WOODRUFF et al. at col. 2, lines 57-60 wherein the electrical contact is recessed with respect to the rim portion of the yieldable sealing member and said sealing member adapted for deforming to enable the electrical contact to contact the surface of the workpiece.

Claim 6 is taught by WOODRUFF et al. at col. 2, lines 61-67 wherein the rim portion of the yieldable sealing member is adapted to splay outward when said yieldable sealing member deforms during contact with the workpiece surface.

Claim 7 is disclosed by WOODRUFF et al. at col. 3, lines 3-7 wherein the yieldable sealing member splays outward making contact with the surface of the workpiece along an internal side surface of the rim portion.

Claim 9 is taught at col. 2, lines 60-63 of the prior art reference to WOODRUFF et al., whereby electrical contact includes a contact face/surface for contacting the surface of the workpiece.

7. Claims 3-7 and 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by BROGDEN et al. US 5,227,041.

Claim 3 is rejected because BROGDEN et al. teach a contact assembly for supplying electrical power to a microelectronic workpiece during electrochemical processing of the workpiece comprising an electrical contact for providing an electrically conductive connection between the contact assembly and the microelectronic workpiece and a yieldable sealing member proximate the electrical contact for bearing against the surface of the microelectronic workpiece to form a seal thereagainst which inhibits entry of processing fluid through a barrier which is defined between said yieldable sealing member and the surface of the workpiece to be treated at col. 5, lines 1-7.

Claim 4 is rejected because BROGDEN et al. teach a contact wherein the yieldable sealing member includes a rim portion for engaging the surface of the microelectronic workpiece forming a seal contact therebetween (aperture perimeter) at col. 6, lines 3-4.

Claim 5 is rejected because BROGDEN et al. disclose a dry contact assembly wherein the electrical contact is recessed with respect to the rim portion of the yieldable

sealing member and said sealing member adapted for deforming to enable the electrical contacts to contact the surface of the workpiece at col. 6, lines 10-15.

Claims 6 and 7 are rejected as being taught by BROGDEN et al. at col. 4, lines 65-68 and col. 5, lines 32-33 wherein the rim portion of the yieldable sealing member is adapted to splay outward when said yieldable sealing member deforms during contact with the workpiece surface along an internal side surface of the rim portion. (see also col. 3, lines 35-52).

Claim 9 is rejected because BROGDEN et al. also teach at col. 3, lines 40-45 the dry contact assembly whereby the electrical contacts include a contact face/surface for contacting the surface of the workpiece.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102((e), f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over BROGDEN et al. US 5,227,041.

BROGDEN et al. as applied, argued and disclosed above and incorporated herein fails to suggest a yieldable sealing member comprising a bellows wall structure.

When general conditions are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by changing the size and form or shape ((In re Rose, 105 USPQ 137; In re Reven, 156 USPQ 679); In re Dailey et al., 149 USPQ 47). The varying shapes of the yieldable seal member appear to be a matter of designer choice and thus not patentably distinct. Therefore it is the Examiner's position that the limitations of claim 8 do not provide a patentable distinction given the general embodiment of a yieldable seal member disclosed by BROGDEN et al.

It would have been obvious to a person of skill in the art at the time of the invention to have configured the yieldable seal member such that the sealing

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engagement of the seal to the workpiece surface is optimized as taught by BROGDEN et al., absent evidence to the contrary.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. YEE et al. US 5,078,852 who disclose a plating rack comprising an annular seal member at col. 6, lines 1-65; THOMPSON et al. US 5,168,887 and BERGMAN US 5,232,511 who disclose apparatus for electrochemical treatment of semiconductor workpieces comprising annular seal engagement of the workpieces, sealing rings and electrical contacts.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica Smith-Hicks whose telephone number is 703/ 305-7645. The examiner can normally be reached on Mon.-Thurs. 8:30 a.m.-6:00 p.m. and alternate Fridays from 8:30 a.m.-5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathryn Gorgos can be reached on 703/ 308-3328. The fax phone numbers for the organization where this application or proceeding is assigned are 703/ 305-7719 for regular communications and 703/ 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/ 308-0661.

Erica Smith-Hicks
Examiner
Art Unit 1741

ESH
July 16, 2000


Kathryn Gorgos
Supervisory Patent Examiner
Technology Center 1700